

In the Claims

Please substitute the following claim:

Claim 1 (amended):

1. A device comprising:

a microfluidic substrate comprising at least one sample pathway for sample flow; and
said microfluidic substrate further comprising at least one temperature regulated zone that cycles between at least two different and predetermined temperatures, said at least one temperature regulated zone being adapted to bring at least a portion of said sample pathway to said at least two temperatures while a sample is unidirectionally flowing along said at least a portion of said sample pathway and wherein a sample is cycled between said at least two different and predetermined temperatures while in said at least one temperature regulated zone.

Please add the following new claims:

Claim 72 (New):

The device of claim 1, wherein said device further comprises at least one thermostating means that cycles said temperature regulated zone between said at least two different and predetermined temperatures.

Claim 73 (New):

The device of claim 1, wherein said at least one temperature regulated zone cycles between -5°C and 150°C.

Claim 74 (New):

The device of claim 1, wherein said at least one temperature regulated zone cycles between 20°C and 40°C.

Claim 75 (New):

The device of claim 1, wherein said at least one temperature regulated zone cycles between 57°C, 72°C, and 94°C.

Claim 76 (New):

The device of claim 1, wherein said at least one temperature regulated zone cycles between 37°C and 94°C.

Claim 77 (New):

The device of claim 1, wherein said at least one temperature regulated zone cycles between 55°C and 94°C.

Claim 78 (New):

The device of claim 1, wherein said at least one temperature regulated zone cycles between 65°C and 94°C.

Claim 79 (New):

A device comprising a microfluidic substrate that comprises at least one sample pathway for sample flow and a thermal support that comprises at least one temperature regulated zone that cycles between at least two different and predetermined temperatures, and wherein a sample undergoes a plurality of temperature cycles as it continuously and unidirectionally flows through said at least one sample pathway.

Claim 80 (New):

The device of claim 79, wherein said at least one temperature regulated zone cycles between -5°C and 150°C.

Claim 81 (New):

The device of claim 79, wherein said at least one temperature regulated zone cycles between 20°C and 40°C.

Claim 82 (New):

The device of claim 79, wherein said at least one temperature regulated zone cycles between 57°C, 72°C, and 94°C.

Claim 83 (New):

The device of claim 79, wherein said at least one temperature regulated zone cycles between 37°C and 94°C.

Claim 84 (New):

The device of claim 79, wherein said at least one temperature regulated zone cycles between 55°C and 94°C.

Claim 85 (New):

The device of claim 79, wherein said at least one temperature regulated zone cycles between 65°C and 94°C.

Claim 86 (New):

The device of claim 79, wherein said at least one temperature regulated zone cycles between 25°C and 42.5°C.

Claim 87 (New):

The device of claim 1, wherein said at least one of temperature regulated zone cycles at 25°C and 42.5°C.

Claim 88 (New):

The device of claim 79, wherein said device further comprises temperature sensors in each temperature regulated zone.

Claim 89 (New):

The device of claim 88, wherein said temperature sensors are two thermocouples and a platinum sensor.

Claim 90 (New):

The device of claim 1, wherein said device further comprises temperature sensors in each temperature regulated zone.

Claim 91 (New):

The device of claim 90, wherein said temperature sensors are two thermocouples and a platinum sensor.